DOCUMENT RESUME

ED 228 831 EC 151 689

AUTHOR Brulle, Andrew R.; McIntyre, Thomas C.
TITLE Socially Withdrawn Children: A Review.
PUB DATE [82]
NOTE 60p.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Behavior Modification; Behavior Problems; Behavior Rating Scales; Biological Influences; Classroom Observation Techniques; *Definitions; Educational Experience; Emotional Disturbances; *Etiology; Family Relationship; *Handicap Identification; Literature Reviews; Modeling (Psychology); Play Therapy; Psychological Testing; School Counselors; Social Adjustment; Social Isolation; Socialization; Sociometric Techniques; Therapy; *Withdrawal (Psychology)

ABSTRACT

Literature on seriously emotionally disturbed children who are socially withdrawn is reviewed, with particular attention given to definitions, identification, etiology, importance of treatment, and treatment procedures. Researchers' attempts to define and categorize social withdrawal are reviewed, and it is suggested that a child's behavior be compared with his/her normal behavior prior to identification as socially withdrawn. Next examined are sociometric measures, teacher ratings, psychological testing, and direct observation methods, with the latter approach seen to be the most accurate source of information. Aspects of etiology considered are biological factors, family relationships, school experiences, and adjunctive (schedule-induced) behavior. The importance of treatment in early primary grades to avoid later difficulty in school is discussed relative to studies of children in school and mentally ill adults who were withdrawn as children. Reviews on approaches to treatment include studies on guidance counselor procedures; play therapy, socialization, and therapeutic sports activities; modeling; teacher attention; and behavioral training. It is concluded that researchers agree only on the importance of treatment, and recommendations are forwarded for research in specific areas. (MC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED228831

Socially Withdrawn Children: A Review

Andrew R. Brulle

Thomas C. McIntyre

Eastern Illinois University

Charleston, Illinois

Send Correspondence to Andrew R. Brulle, Ed.D. or
Thomas C. McIntyre, Ph.D.
Department of Special Education
Eastern Illinois University
Charleston, Illinois 61920

Running Head: Withdrawal

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Andrew R. Brulle
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC151689

Socially Withdrawn Children: A Review

The phenomenon known as "emotional disturbance" has puzzled mental health professionals and educators for a number of decades. Debates over the most appropriate assessment strategies and intervention techniques to use with emotionally disturbed children have raged, and will probably continue to do so as long as there are differing philosophies concerning emotional disturbance. Debates over an exact definition of emotional disturbance have also continued unabated for centuries (Kauffman, 1976), and will probably continue for many more. The most influential legislative piece concerning the education of handicapped children (P.L. 94-142, 1975) though, provides what is currently accepted by both state and local education agencies as the definition of seriously emotionally disturbed children. This definition reads:

> (i) The term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree which adversely affects educational performance:
>
> (a) An inability to learn which cannot be explained by intellectual, sensory or health factors;
>
> (b) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;
>
> (c) Inappropriate types of behavior or feelings under normal circumstances;

(d) A general pervasive mood of unhappiness or depression; or

(e) A tendency to develop physical symptoms or fears associated with personal or school problems.

(ii) The term includes children who are schizophrenic or autistic. The term does not include children who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed.

As with other definitions of emotional disturbance, the definition provided by P.L. 94-142 is vague. What exactly constitutes "inappropriate behavior" over "a marked period of time" which "adversely affects school performance" is still open to debate. A number of writers have attempted to identify specific deviant behavioral traits found in the school classroom (Bower, 1960; Dunn, 1973; Maes, 1966; Pate, 1963). Their traits, though, are not precisely defined. Martin (1979) has suggested that these terms be operationally defined in order to avoid constant legal battles over the classification of children as seriously emotionally disturbed. One operational definition would be insufficient however, because emotionally disturbed children exhibit a large variety of deviant behaviors ranging from acting-out aggressive to phobic to withdrawn (Quay, Morse, & Cutler, 1966). Reinhart (1980) divided these numerous behavioral traits into four categories: acting out (aggressive or disruptive behavior), defensive (behaviors which attempt to prevent further injury to one's self concept), disorganized (autistic or non-reality based behaviors),

and withdrawn (restricted behavior patterns). A review of the behaviors which possibly could be exhibited by children who have been classified as seriously emotionally disturbed would be nearly impossible. Therefore, this paper will focus only on those classified as withdrawn. These children and youth are often referred to as being shy, introverted or withdrawn. A recent survey by Zimbardo, Pilkonis, and Norwood (cited in Gelfand, 1978) reveals that 25 percent of high school and college students reported that they had been shy for most of their lives. Most of this population, however, would exhibit behavior which is within the confines of what society would consider to be normal. There are, however, students who exhibit abnormal inhibitive behavior. Although satisfactory socialization is not a difficult endeavor for most, these children appear to have great trouble in initiating and maintaining social interaction with others. These same students oftentimes are not identified as being in need of special assistance due to the non-disruptive nature of their behavior which does not interfere with a teacher's duties (Reinhart, 1980). This paper will approach the topic of withdrawal in five major sections; (a) definition, (b) identification, (c) etiology, (d) importance of treatment, and (e) treatment.

Definition

Reinhart (1980) defines "withdrawn" as "inhibited or restricted in behavior, which can negatively affect Learning" (page 4). Buswell (1953) agrees, stating that social responsiveness is a factor in the level of academic achievement that a child is able

to attain. Exactly what constitutes this "social responsiveness" though, has been the source of much controversy throughout the years. A number of writers have attempted to devise operational definitions. Gottman (1977) for example, attempted to develop a definition of social isolation in children. Assessment of 113 children in eight Head Start classrooms was done using a sociometric measure and direct observation procedures when children were (a) alone, (b) interacting with peers, and (c) interacting with teachers. The results indicated that there was no relationship between peer acceptance (as measured sociometrically) and the actual frequency of peer interaction. He also found that children seem to fall into five clusters: (a) sociometric "stars", (b) social rejectees, (c) children who had highly negative interactions with teachers, (d) children who interacted frequently with peers, and (e) children who frequently "tuned out" when alone. This last group also had the lowest acceptance scores, exhibited a number of behaviors which could be categorized as shy, anxious and fearful, and were generally ignored by their peers.

Kohn and Rossman (1972) developed a checklist to assess social competence in preschool children. Their descriptors of withdrawn behavior included: (a) keeps to himself; remains aloof, distant, (b) fails to play with other children, (c) fails to take part in activities when urged, (d) has a mournful downcast expression, looks solemn, seldom smiles, and (e) stares blankly into space. Other descriptors found in the literature (Burks, 1977; Jurgens & Babich, 1982; Peterson Quay, 1979; Schwartz & Johnson, 1981;

Shea, 1978) include: isolation, preoccupation, daydreaming, drowsiness, shyness, coquettishness, fear, depression, anxiety, social introversion, withdrawal, difficulty to get to know, shows little feeling when others are upset, prefers to work by self, does not show feelings, appears disinterested in classwork of others, bashfulness, social withdrawal, lacking eye contact, over-compliance, passive or apathetic attitude, unhappiness, and hypersensitivity. Although descriptors of this sort may prove to be somewhat helpful in describing withdrawn children, a larger number of researchers are tending to move towards exact descriptors of behavior and comparisons with normal populations.

Kale, Kaye, Whelan and Hopkins (1968) have stated that socially withdrawn children are those who demonstrate low rates (as determined by a comparison with normal rates) of social behavior in interactions with peers. As opposed to Gottman (1977), O'Connor (1972) has found that the typical preschool child interacts with his/her peers approximately 21 to 32% of the time during free play periods. He suggests that those children who exhibit less than 15% of this interactive behavior be considered isolates and candidates for intervention. Similarly, Strain, Cooke, and Apolloni (1976) have used the child's behavior in the natural environment as the sole criterion when they characterized social withdrawal as a "descriptor for individuals who (owing to constitutional or experiential deficits) demonstrate social performance judged deficient by social agents (e.g., parents and teachers) controlling the reinforcers available in their environment" (p. 97).

Their three criteria for the identification of socially withdrawn behavior are: (a) a measure of the frequency, duration, and/or magnitude of the occurrence of social behavior with peers; (b) a count of the number of peers with whom the interaction occurs; and (c) a measure of how well this social interaction can be maintained in a natural setting. They have further divided socially withdrawn behavior into a continuum that ranges between two types. Type I behaviors accrue from a deficient social repertoire and are demonstrated by children who have not yet acquired the basic vocal and motor response behaviors necessary for reciprocally reinforcing interactions with their peers, while Type II behaviors are demonstrated by children who are capable of exhibiting (i.e., have learned how to exhibit) appropriate social behaviors, but who, for various reasons, do not behave appropriately. A child who exhibits Type I characteristics would need to be taught appropriate behaviors, while a child who exhibits Type II characteristics would need to be presented with behavior-change interventions.

According to Greenwood, Walker, and Hops (1977), social withdrawal "implies a withdrawal from or avoidance of social contact with others" (p. 492). They provide a distinguishment between social withdrawal (i.e., the child exhibits a very low rate of social interaction due to an inadequate behavior repertoire) and social rejection (i.e., the child attempts social initiations but is rejected by his/her peers). This refinement of a definition of socially withdrawn behavior coupled with Strain et al.'s

(1976) Type I-Type II continuum adequately emphasize the two major concerns of a definition of socially withdrawn behavior: (a) the child's behaviors, and (b) the peer's responses to these behaviors. A deviance in either of these areas could result in behavior which might be categorized as withdrawn. Any definition of withdrawn behavior should address both. Both of these concerns should also be addressed with reference to normal behavior, since the concept of deviance is based upon gross differences from the norm. The idea of describing a child's behavior by comparing it with that of his/her peers is a concept which has been labeled "social comparison" (Kazdin, 1977), and has been gaining in favor recently (e.g., Brulle, Barton, & Repp, Note 1; Nieminen, Barton, Brulle, & Repp, Note 2; Walker & Hops, 1976). This process (which will be discussed in more depth later) may help to provide a data-based definition of social withdrawal and to alleviate some of the controversy and difficulties with the identification of children who exhibit this type of behavior.

Summary

As with definitions of emotional disturbance, the definitions of social withdrawal is still equivocal. A number of attempts at operational definitions were reviewed along with attempts at categorization. It has been suggested that before identifying a child as withdrawn, that that child's behaviors be compared to normal behavior. This comparison to normal behavior has been addressed repeatedly in the literature and holds promise in the identification of withdrawn children.

Identification

Withdrawn behavior is a disorder which proves difficult to detect due to the lack of overt aggressive symptoms. These students are often overlooked or viewed favorably by teachers because they are non-disruptive and perform their tasks. As with the issue of definitions, a perusal of the literature regarding the identification of socially withdrawn children results in no concise procedures. Basically, researchers have used four types of assessment instruments. The first type can be labeled sociometric instruments and is characterized by measures such as sociograms (e.g., children indicate with whom they would like to work, play, etc.) and peer rankings of friends. The second type can be labeled teacher nominations/ratings, and include measures such as teacher referrals and teacher completions of various behavior checklists and questionnaires. Third, objective and subjective normed testing, performed by psychologists are commonly used in the identification of withdrawn students. The final type of assessment instrument can be described as direct observation, and includes measures such as the frequency and duration of clearly defined child behaviors.

Sociometric Measures

Sociometric measures involve the measurement of peer interactions as reported by peers (Moreno & Jennings, 1977; Northway, 1940). For example, children might be asked to list the other students with whom they would like to work, play, sit by, etc. Or, they might be asked to draw a face with a smile, neutral ex-

pression, or frown by their classmates' names depending on how they feel about each person. These results indicate which students are "stars," which have a normal amount of peer acceptance, and which are "rejectees."

Marshall and McCandless (1957) developed a picture sociometric instrument which was reliable and useful in predicting observational measures of social acceptance. With 38 preschool youngsters as subjects, they found that: (a) a child's degree of participation in social interaction is positively related to his/her sociometric score and to teacher judgments; (b) social acceptance in play situations is related to sociometric and teacher ratings; and (c) sociometric choices and judgment of teachers as to the child's friends agree. Other researchers (e.g., Chennault, 1967) have also found a sociometric instrument to be usefulin the identification and treatment of unpopular children. While some researchers have found these instruments to be helpful, others (e.g., Marchall, 1957; Walker, 1973) have criticized them as being unreliable, not valid and not normed and therefore, not necessarily as good as direct observation or teacher ratings measures.

Teacher Ratings

The use of teacher ratings to aid in the identification of socially withdrawn children has become a very popular measure (Greenwood, Walker, & Hops, 1977). Bower and Lambert (1971) state that the teacher rating can be the single most effective index of a pupil's growth and development. They caution that these

instruments not be used in isolation when assessing a student. Basically, measures of this sort involve giving the teacher a checklist or questionnaire to fill out on each child. The responses to item on this instrument are then analyzed, and "classification" of each child is the result. An example of this type of instrument is the EArly School Personality Questionnaire (ESPQ) which was developed in order to determine the personality characteristics of children who were nominated by their teachers as having emotionally handicapping conditions (Harris, King, & Drummond, 1978). After an inservice session on the characteristics of emotional disturbance, teachers nominated 99 children in grades 1 through 3 as exhibiting emotionally handicapping conditions. These children were then administered the ESPQ. The researchers found that the teachers nominated children who were shy, timid, guilt-prone and apprehensive. The researchers suggested that inservices of this type should be expanded and that teacher, child, peer and parent perspectives of behavior be gathered. If these guidelines are followed, Harris, et al. (1978) feel that teacher nominations can be fairly accurate in identifying withdrawn children.

Quay and Peterson (1975) have developed a behavior problem checklist which rates children in four behavioral areas, (a) conduct-disorders, (b) inadequacy-immaturity, (c) socialized delinquency, and (d) personality problems (also called anxiety/withdrawal). Withdrawn children exhibit characteristics listed under the latter category. Grieger and Richards (1976) used this checklist to assess 100 special education students and 527 normal

peers. As might be expected, special education students scored higher in all three areas, indicating that this type of checklist might be useful in helping to identify emotionally disturbed (aggressive as well as withdrawn) children. One limiting factor of the scale is the selection of items which were taken from the most frequently reported behaviors of children treated at a psychiatric clinic. Therefore, these behaviors may not be entirely representative of behaviors seen in learning situations. Its strengths lie in its validity and provisions of norms for both sexes.

Other teacher rating scales which have a scale for assessing withdrawn behavior are the Hahnemann High School Behavior Rating Scale (Swift and Spivak, 1973), Burks' Behavior Rating Scales (Burks, 1977) and the Walker Problem Behavior Identification Checklist (Walker, 1970).

The Hahnemann scale is for use with youth in grades 7 through 12. It includes 45 items which assess skill which relate either positively or negatively to academic success. The scale has good validity and provides norms for comparison.

The Burks' scale includes 110 behavioral statements which assess 19 different aspects of a child's behavioral-emotional state. The instrument is geared toward students in grades 1 through 9. The excessive withdrawal scale is composed of six questions. The ratings of behavior are placed on a five point continuum from "you have not noticed this behavior at all", to "You have noticed this behavior to a very large degree". The

author reports adequate validity and reliability for the norm-referenced instrument.

The Walker instrument consists of 50 items in five behavioral areas. The withdrawal subscale includes five behavioral statements, each weighted according to the author's estimate of the predictive importance of the item. The test manual recommends the scale for elementary school teachers and states that the instrument should be used to identify children who should be referred for further evaluation (Walker, 1976).

A review of the literature indicates that screening instruments most often assess acting out, agressive behaviors whereas withdrawn behaviors are least often evaluated.

The issue of assessing withdrawn behavior through the use of teacher ratings has been addressed by Greenwood, Walker, & Hops (1977). They feel that teacher ratings can be useful and accurate provided that the instrument being used has the following seven characteristics: (a) it can be used for screening, identification and treatment evaluation purposes; (b) it has a direct relation to the behaviors being measured; (c) it has appropriate, normed data; (d) it is reliable; (e) that each child in the class being screened has an equal opportunity of being evaluated; (f) it can be used to assess change in studies using either group or single subject designs; and (g) it is cost-effective. In order to assess the reliability of any instrument, its findings would have to be compared to direct observation data. Experiments to this end have been attempted

(e.g., Bell, Waldrop, & Weller, 1972; Greenwood, Walker, Todd, & Hops, 1976), and results have indicated that teacher ratings can be quite accurate when compared to direct observation measures. The other six aspects of the usefulness of teacher rating instruments have not been extensively explored, and further research in this area is needed.

Psychological Testing

Formal testing is valuable as a method to verify teacher observations and to provide more in-depth information on a certain student (Anastasi, 1968; Sattler, 1974). These instruments are usually administered and scored by psychologists and other trained professionals. Although the WISC (Wechsler, 1949) and the Stanford-Binet test (Terman & Merrill, 1937) are best known as intelligence measurement instruments, research regarding their ability to assess personality makeup has been done (Buros, 1965), and researchers (Coleman, 1964) have proposed that mental disorders can be detected by their use, though, more often, various projective measures are used to assess emotional disturbance.

Perhaps the best known of the projective devises is the Rorschach Method of Personality Diagnosis (Klopfer & Davidson, 1960) which involves interpreting a person's associations to ten cards containing bilaterally symmetrical inkblots. However, the results of this device are questionable due to the subjectiveness involved in scoring and the use of norms derived from use with adults (Kleinmuntz, 1967; Ullmann & Krasner, 1965). There

is also a lack of information on the qualitative interpretation of protocols for children (Anastasi, 1968).

Another inkblot test, a variation on the Rorschach, is the Holtzman Inkblot Technique (see Anastani, 1968). This test attempts to meet more technical psychometric standards, but at present has little data to prove its superiority over the Rorschach (Reinhart, 1980).

The Thematic Apperception Test (TAT) (Bellak, 1947) is another projective measure which uses pictures and asks the subject to tell a story about the scene. A children's version of the tet, the CAT, has been developed for children aged 3 to 10 years. This version places animals in place of humans in human situations. The purpose is to elicit fantasies that the child may have regarding aspects of development (Anatasi, 1968; Kleinmuntz, 1967).

The Blacky pictures (Blum, 1950-62) are a series of cartoon pictues depicting a family of dogs. The main character is Blacky, who can be either sex depending on the sex of the child being tested. Again, children are asked to tell a story about the picture. However, the data regarding norms, reliability and validity have come under attack as being inadequate (Blum, 1956; Zubin, Eron, and Schumer, 1965).

A number of other projective techniques are also utilized. Word association tasks in which a person given a one word response to anorally presented list of words. Responses are scored according to content, frequency and non-verbal reactions (Forer, 1971).

Similarly, completion exercises are often used. In these, the child is asked to furnish endings for orally presented incomplete sentences such as "I like...", "My greatest worry is...", and "My mother...". The test administrator interprets the responses and looks for likes, dislikes and recurring themes. Inferences are then drawn regarding the student's psychic state. Finally, a variation of the sentence completion exercise involves the completion of orally presented stories (Wursten, 1960). The tester interprets story completions and makes inferences about the child's emotional condition.

A major criticism of the psychological instruments is their reliance on the subjective interpretation of the examiner. Since most tests are open-ended, there cannot be any "right or wrong" answers, and psychologists must depend on their impressions which can often be guided by their theoretical orientation. Psychologists with different theoretical orientations conceivably could arrive at different diagnoses when assessing the same child.

Direct Observation Measures

Direct observation measures have been used as the reference to which sociometric and teacher rating measures are compared because direct observation measures describe the exact behaviors of the child and the relative frequency and/or duration of those behaviors, and the responses of peers and adults to those behaviors. This type of measure has been used for assessment purposes in a large number of applied studies on withdrawn children (e.g.,

Buell, Stoddard, Harris, & Baer, 1968; Nelson, 1971; Parten, 1933; Strain & Timm, 1974). Walker and Hops (1976) extended the concept when they suggested using normative observational data in order to identify which children should receive interventions, and Barton, Brulle, & Repp (in press) have further extended this concept by suggesting that deviant children's behavior can easily be expressed as "percent of normal behavior." This concept has great potential, and conceivably could result in exact, behavioral definitions of heretofore abstract terms. However, behavioral observation procedures have limitations which may restrict their use. First, in order to gather observational data, one needs to define objectively and explicitly the behaviors to be observed. These explicit definitions, by their very nature, limit the generalizability of the behavioral terms, thus making general terms (e.g., withdrawal, hyperactivity, etc.) relatively useless. Also, explicit behavioral definitions may limit the number of characteristics which can be assessed. For example, various descriptors of withdrawn behavior have included terms such as shy, sad, fearful, isolated, introverted, and quiet. In order to define explicitly and gather observational data on all of these descriptors, researchers and teachers would need to spend an inordinant amount of time simply observing children. Another disadvantage of direct observation procedures is that they are necessarily time-consuming and are therefore not as cost-effective as quicker, more easily administered screening procedures. However, these disadvantages

must be carefully weighed against the major advantage of using direct observation procedures viz, the provision of exact, behavioral data.

Summary

Four basic types of procedures have been used in the identification of withdrawn behaviors in children, (a) sociometric devices, (b) teacher ratings, (c) psychological testing, and (d) direct observation instruments. Projective testing was criticized on the basis of its subjective interpretation of results. The most accurate information is obtained via direct observation procedures, although teacher ratings have proven to be fairly accurate and much less cumbersome. The idea of using percent of normal behavior as an identification procedure appears to have utility, however one must first determine what constitutes "normal" behavior. Greenwood, Walker, and Todd (1979) compared sociometric measures and teacher ratings with direct observation measures on 299 withdrawn preschoolers. They found that teacher ratings correlated highly with observational data (Rho = .80), and suggested that, in the interest of cost-effectiveness, teacher ratings be used first, and later in combination with more extensive observational procedures when the situation warrants. This procedure of identification seems to be the most logical compromise and could result in services being offered to more children more quickly. While this method of identification will help to identify current problems though, it will not be useful in helping to identify the causes of withdrawn behavior.

Etiology

Research has suggested four primary causes of withdrawn behavior: (a) biological factors, (b) family relationships, (c) school experiences, and (d) adjunctive (schedule-induced) behavior. While in a majority of cases one would be hard put to pinpoint the exact etiological factor which precipitated the withdrawn behavior, these four causes have been found to be contributing factors in many cases. Similarly, opinions concerning the strength of these factors vary among professionals depending upon the particular conceptual model adhered to by the professional (i.e., biological, psychoanalytic, psychoeducational, humanistic, ecological, and behavioral).

Biological Factors

"Every behavioral symptom can occur as a direct result of an organic disease" (Schulman, 1967, p. 25). The brain and the central nervous system control all behavior, and this control is effected by electo-chemical-biological reactions. Any factor which interferes with these reactions can result in disturbed behavior. Genetic conditions, brain injury or malfunction, diseases of the central nervous system and biochemical imbalance can all contribute significantly to emotional disturbance, and hence, to withdrawn behavior. However plausible this explanation may seem, biological factors which could explain disturbance are not always present in emotionally disturbed children. An explanation for this phenomenon has been proposed by researchers who believe that environmental factors (family relationships, school experiences and adjunctive behavior)

can significantly modify biological causes (McClearin, 1964; Scarr-Salopatek, 1975).

Although Eysenck (1956) reported evidence of genetic heritability of introversion-extroversion, indicating that some children may have a predisposition to social introversion, the most convincing evidence for biological causes is found in children who are severely or profoundly emotionally disturbed. Rimland (1964, 1971) has suggested that children who exhibit symptoms of early childhood autism probably have some sort of neurochemical imbalance. Similarly, Heston (1970) and Meehl (1969) have stated that schizophrenia has a major genetic component and Werry (1972) has found that severely emotionally disturbed children have signs of neurological impairment.

In support of the genetic viewpoint, Eysenck (1956) presented evidence for extroversion-introversion heritability and suggests that some children may, in fact, have an internal predisposition to withdrawn behavior. However, although biological factors may be able to explain some cases of severe withdrawal, the majority of children who are mildly to moderately disturbed do not display an obvious biological deficits. This is not to say that biological factors are not present though. The present medical technology may not allow physicians to detect subtle, yet causative, chemical or biological imbalances. Until such advances are made which would allow a complete biological assessment of human behavior however, professionals will have to be content with other explanations of the etiological factors of withdrawal.

Family Relationships

Schulman (1967) has stated that "the basis for every behavior disorder is to be found in the relationships in the home, principally those of each of the parents with the child and the parents with each other" (p. 26). The author detailed ten possible relationships which could result in symptoms of emotional disturbance: (a) a rigid relationship, (b) an over-permissive relationship, (c) an overprotective relationship, (d) a rejecting relationship, (e) a symbiotic relationship, (f) a vicarious relationship, (g) an inconsistent relationship, (h) a neglectful relationship, (i) psychotic parents, and (j) marital problems. Schulman describes how each of these aberrant situations can contribute to the development of withdrawn behavior in the child.

Withdrawn behavior appears to be associated more often with girls rather than boys, who are more likely to exhibit acting-out behavior (Shea, 1978). Shea (1978) suggests that the reasons for these sex ratio differences may be due to different societal-parental pressures for males and females. Girls, according to Shea, are more often reared to be compliant, reserved, and quiet while boys are expected to be more aggressive and outgoing.

Although the home situation may not be the only causative factor of emotional disturbance, its contribution cannot be ignored. Therefore, during the initial assessment phase of the determination of eligibility for special education services,

a concise sociological study of the child's home environment should be encouraged. If this factor does indeed have a causative relationship, this information could prove to be invaluable when preparing a child's program.

School Experiences

Of great concern to educators is the child who exhibits no signs of withdrawal before (s)he begins school, but once attending school, develops behaviors characteristic of withdrawal. In cases such as this, the precipitative factors are the school environment and the educators within the students' academic mileu. If for example, a child with limited abilities encounters a particularly rigid teacher, that teacher conceivably could place enough pressure on the child to achieve the the child might begin to withdraw from activities in order to protect his/her self-concept. Conversely, an exceptionally talented child may begin to exhibit behaviors that are characteristic of withdrawal because (s)he has not been challenged sufficiently by his/her schoolwork and reacts out of boredom. In order to avoid contributing to a child's disturbance, Kauffman (1977) has recommended five guidelines for teachers to follow. These guidelines are: (a) realize that each child had different abilities and interest; (b) maintain appropriately average academic expectations; (c) manage behavior consistently; (d) make lessons relevant; and (e) be certain to reinforce appropriate behaviors and to not reinforce inappropriate behaviors.

Adjunctive Behavior

"An adjunctive or schedule-induced behavior may be generally defined as a behavior which is maintained indirectly by the typical controlling variables of another behavior, rather than directly by its own typical controlling variables" (Foster, 1978, p. 545). Suppose for example that a teacher had instituted a behavior management program with a particularly withdrawn boy, and was praising him every five minutes if the boy participated in classroom activities. However, the teacher had become involved instructing another student in another classroom, and the teacher's aide was in charge of the original room. This aide did not know about the reinforcement program, therefore, she did not reinforce the withdrawn boy. When the boy realized that his schedule of reinforcement had been changed, he immediately began to exhibit withdrawn behaviors. These withdrawn behaviors would be termed adjunctive behaviors since they were induced and maintained by a change in the reinforcement schedule rather than by typical reinforcers.

This phenomenon of adjunctive behavior has been well documented in animal research studies (see generally, issues of the Journal of the Experimental Analysis of Behavior; Falk, 1971, Staddon, 1977), however, the research in the human realm has been quite scant. The majority of the research on humans has come from a group in Australia (Clark, Gannon, Hughes, Deogh, Singer, & Wallace, 1977; Wallace, Sanson, & Singer, 1978; Wallace & Singer, 1976; Wallace, Singer, Wayner, & Cook,

1975). These researchers have been able to demonstrate that adjunctive behavior does indeed exist in humans. Foster (1977) has postulated that some neurotic or psychotic behaviors in humans (e.g., nailbiting, handwashing, manic-depressive episodes, self-stimulatory behavior, withdrawn behavior) may actually be adjunctive behaviors rather than behaviors directly under the influence of reinforcers. If this indeed is the case, then traditional attempts to modify these behaviors will be useless. What would need to be done is to discover the controlling schedule and to modify it. This theory of causation of disturbed behaviors is interesting, however, there is not enough evidence to reach a decision to reject or retain. Teachers should, however, keep this theory in mind when a previously well-behaved child begins to exhibit behaviors which are characteristic of serious emotional disturbance.

Summary

Four primary factors which could possibly cause withdrawn behaviors have been identified: (a) biological factors, (b) home situations, (c) school situations, and (d) adjunctive causes, although a psychoanalytic explanation is also often forwarded. For example, Jurgens and Babich (1981) state that withdrawn behavior in adolescents may be a defense mechanism when used to deny an unpleasant reality. A clear-cut etiological statement concerning withdrawn behavior is not possible, however, because no absolutely definitive research has delineated the causes of these behaviors. Even if a precise cause could be

pinpointed, professionals would view its effects differently depending upon their conceptual base. More importantly, the identification of etiologies should lead to the development of treatment goals. Although many teachers do not perceive withdrawal as a serious behavior problem (Cooke & Appoloni, 1976), the early treatment of withdrawal behaviors has been stressed by a number of researchers.

Importance of Treatment

Development in Childhood

Early researchers have found that children who are not socially accepted in the early primary grades experience later difficulties in school (Ausubel, 1958; Bonney, 1943) and that children's degree of peer interaction stabilizes during the preschool years(Challman, 1932). This contention has also been supported by more recent research. For example, Rardin and Moan (1971) examined 81 children from kindergarten through third grade. After ranking these children on measures of popularity, cognitive development and social development, the researchers concluded that cognitive and social development parallel one another and, in fact, may be interdependent processes. Similarly, Hartup (1970) has stated that "there is little doubt that the changes which occur in child-child interactions during infancy and childhood are closely linked with changes in sensory-motor capacities, cognitive skills, and the development of impulse control" (p. 368). Other researchers (Whitman, Mercurio, & Capanigri, 1970) feel that "...social interaction is a critical

prerequisite for much of the child's behavioral development. Conversely, the absence of social interaction insures that development will be retarded" (p. 133). They feel that isolate behavior may possibly be caused by the absence of reinforcement for outgoing behavior and the absence of appropriate behavioral models in both the home and school. Patterson & Reid (1969), feel that isolate behavior may be caused by a child's difficulty in learning to relate in a reciprocally reinforcing manner with peers in home and school situations. They feel that social withdrawal restricts a child's access to positive social stimuli. This restriction increases the likelihood that the child will be exposed to aversive social stimuli, with a resultant increase in withdrawn behavior. They feel that this vicious cycle might contribute significantly to later psychological problems.

Relationship to Adult Problems

Investigations into the relationship between withdrawn behavior as a child and mental problems as an adult have yielded equivocal results. Michael, Morris, and Soroker (1957) conducted a follow-up study on 164 withdrawn children and concluded that withdrawn behavior as a child is not very likely to result in serious abnormalities during adulthood. O'Neal and Robins (1958) performed a follow-up study on 28 adult schizophrenics and 57 normal individuals. They concluded that social withdrawal was not an antecedent to schizophrenia, however their study contained some serious selection and mortality problems. Similarly, Morris, Soroker, and Burrus (1954) examined the later

adjustment of 54 shy children. Their survey indicated that 69% were satisfactorily adjusted, 28% were marginally adjusted and 3% were mentally ill. They concluded that educators might possibly be overconcerned with "bringing-out" the shy child.

The above cited studies seem to indicate that withdrawn children do not necessarily exhibit later problems. However, studies which examined the converse question (i.e., were adults with mental problems withdrawn as children?) indicate that that indeed is the case. Gottman, Gonso, and Rasmussen (1975) have stated that there is a positive relationship between peer popularity and teacher rankings and later life indices of mental illness. In an examination of old school records, Kasanin and Veo (1932) found that 28% of 54 adult phychotics were withdrawn as children. A similar study (Bowman, 1934) compared the prepsychotic personalities of 322 mental patients to 96 normal individuals. He found that adult schizophrenics were generally more withdrawn than the controls. Cowen, Pederson, Babrigen, Izzo, and Trost (1973) found that unpopular children were disproportionately represented on psychiatric rolls. Kohn and Clausen (1955) interviewed 45 schizophrenic and 13 manic-depressive adults or their close relatives and 58 matched, control adults. The questions were of the sort "with whom" and "what types" of activities did the subject associate when he/she was 13-14 years old. They found that mental patients were more often alone than their matched controls. Finally, in one of the more controlled studies in this area, other

researchers (Bower, Shellhamer, & Daily, 1960) examined the school characteristics of children who later became schizophrenic. Through an examination of high school records of grades and extracurricular activities and double-blind interviews with former teachers, the researchers examined the characteristics of adult schizophrenics and randomly selected, normal classmates. Their findings supported the contention that adult schizophrenics tended to be withdrawn.

Summary

The research in this area indicates that not all shy children will exhibit later adjustment problems, but that many individuals who do exhibit these problems had been withdrawn as children. One possible explanation which may help solve this paradox has not yet been researched. This question would ask to what degree must withdrawn behaviors be exhibited before one considers the child to be at risk. Possibly a definition gleaned from social comparison methodology and patterned after the well-known definition of mental retardation (e.g., two or more standard deviations below the mean) would help to remove the ambiguity from this area. Since this paper is concerned with children who have been classified as seriously emotionally disturbed due to their withdrawn behaviors, it is safe to assume that interventions should be tried. With prevalence estimates averaging approximately 15% (Gilbert, 1957; Heinstein, 1969; Rogers, Lilenfield, & Pasamanick, 1955) the area of treatment for withdrawal behaviors should be of major concern.

Treatment

Educators seem to be in agreement that the most efficacious time to begin the treatment of withdrawn children is when these children are young and just beginning to learn to interact with their peers (e.g., Apollini & Cooke, 1975; Bloom, 1964). Educators also seem to agree that the prognosis for improvement in the withdrawn child is relatively good. An extensive review and analysis of literature persuaded Clarizio and McCoy (1976) to conclude that shyness and withdrawal decrease with age and are not strongly predictive of adult disturbances. DeStefano, Gestin, and Corven (1977) surveyed 134 primary teachers and asked them to rate nine hypothetical students who exhibited three types of school adjustment problems (acting-out, shy-anxious, learning difficulties). The teachers rated these students on four dimensions: (a) appropriateness of referral for mental health services, (b) ease of working with each child, (c) how well mental health personnel would enjoy working with each child, (c) how well mental health personnel would enjoy working with each child, and (d) the treatment-prognosis estimate for each child. In general, the shy-anxious children got the most positive ratings.

Although educators are in general agreement concerning the "when" and the "probable outcome", the question of "what kind" of treatment should be provided for the withdrawn child has not yet been answered. In a study addressing this question (Morrison & Thomas, 1976), 30 special educators and 28 child

care personnel were asked to rank what they felt would be the most appropriate treatment for hypothetical children. The educators favored behavior modification procedures more than did the child-care personnel, however, play therapy, family therapy, and no treatment were deemed to be the most appropriate for the withdrawn child. The controversy over the most appropriate treatment for withdrawn children will probably continue as long as professionals adhere to different models of emotional disturbances. Garner (1976) has discussed this controversy and suggested that rather than debate the relative merits and failures of each approach, professionals should combine their efforts and work for the child. In general, behavioral procedures seem to be the preferred mode of treatment (as evidenced by that fact that this author found 36 behavioral studies as compared to only 18 for other methods), yet many other procedures including guidance counselor procedures, play therapy, socializing events, therapeutic sports activities, and modeling deserve consideration.

Guidance Counselor Procedures

Amidon and Hoffman (1963) have recommended that guidance counselor procedures be used to help the socially isolated child. Their recommended technique included: (a) the creation of an accepting classroom atmosphere, (b) the use of group discussions and role-playing, (c) giving withdrawn children status responsibilities, and (d) frequent teacher-child con-

ferences. In another study (Kransler, Mayer, Dryer & Munger, 1966), the effectiveness of three treatment conditions on the sociometric status of isolate children was compared. Children in the counseling section met in a client-centered group once a week. In the teacher guidance group, the teachers were given a list of procedures designed to "bring out" the withdrawn child (e.g., praise him/her when (s)he talks in a group), while children in the control group received no special treatment. The results indicated that the counseling group fared better than the controls, but that there was no difference between the counseling and teacher guidance groups. Other researchers (Cox, 1953; Early, 1968) have also found nonsignificant results when using guidance counselor procedures with the isolate child. The results of these studies would seem to indicate that the relative effectiveness of guidance counselor procedures is still not known.

Play Therapy, Socialization Experiences, Therapeutic Sports Activities

The use of play therapy with emotionally disturbed children has a long history (Axline, 1947). Its use as a treatment procedure for withdrawn children was examined by Guerney and Flumen (1970). They trained eleven elementary teachers in the use of play therapy and reported that these teachers subsequently increased the classroom assertiveness of nine withdrawn children. Clement and Milne (1967) also demonstrated

how play therapy in combination with reinforcements (both tangible and verbal) was effective in increasing the social approach behaviors of withdrawn boys.

Other procedures have been tried with socially withdrawn children with mixed results. For example, Bonney (1971) evaluated how effective 17 different socializing experiences were on increasing the sociometric status of withdrawn children. He found no significant differences between the experiences. On the other hand, therapeutic sports activities have been shown to help withdrawn adolescents gain self confidence and make new friends (Doxier, Lewis, Kersey, & Charping, 1978). The research on all of these methods is rather scant, and efforts which explore variations and combinations of the procedures along with an evaluation of their relative effectiveness is needed.

Modeling

Bandura (1963, 1969) has stated that modeling is an effective means for modifying withdrawn behavior because most social processes are acquired naturally through imitation. His social learning theory states that modeling phenomena are governed by four interrelated subprocesses: (a) attentional processes, (b) retentional processes, (c) motoric reproduction processes, and (d) reinforcement and motivational processes. In the attentional process, Bandura feels that the behavior to be modeled must be attended to through discriminative observation before any learning can occur. During the retentional

process, the subject acquires the behavior in representational form through either imaginal or verbal coding. During the motoric reproduction process, symbolic representations of the modeled patterns guide overt performance. In the reinforcement and motivational process, overt responses are reinforced, thus increasing the probability of subsequent, similar responses. Bandura feels that the reinforcement process is facilitory, but not absolutely necessary, in order for observational learning to occur. This theory of modeling has been used to develop imitation training procedures which have successfully increased social responses by withdrawn children (Paloutsian, Hasazi, Streifil, & Edgar, 1971). By using prompting and social reinforcement, the authors were able to increase the social responses made by ten severely mentally retarded, institutionalized children after training by imitation. Generalization of these social responses also occurred. Modeling procedures were also used by O'Conner (1972), who evaluated the effects of viewing a film during which a model was reinforced for exhibiting appropriate social responses. Thirty-three isolate children were selected and divided into groups. One group viewed the modeling film, the others saw an animal film. These groups were then further subdivided into shaping (positive reinforcement) and non-shaping groups. O'Connor (1972) was able to show that the modeling plus shaping group performed better than did the shaping group. Other researchers (Evers & Schway, 1973; Evers-Pasquale & Sherman, 1975) have attempted to extend modeling

research and found that there was no difference in the behaviors of modeling and modeling plus praise groups, and that peer-oriented children learn social behaviors from models better than do non-peer oriented children.

Generally, the research on modeling procedures shows that they can be effective in increasing the social responding of isolate children provided that the reinforcement received by the model is also valued by the isolate children. Gelfand stated that: "There is some evidence that even brief symbolic modeling treatments can have long lasting effects, but are particularly likely to effect long term improvement when combined with shaping and contingency management programs" (p. 345). Unlike some of the procedures described earlier, this procedure has been well-researched and details are available for immediate implementation.

Environmental Manipulations

Other researchers have examined the effects of environmental manipulation on the isolate behavior of children. Parten (1933) demonstrated that the use various materials resulted in more isolate play. These results were supported in a more recent investigation (Quilitch and Risely, 1973). These researchers used sophisticated techniques in a well-designed study to assess the type of play (isolate versus social) exhibited by children using the various toys. Their results suggested that some toys may be therapeutic and aid some isolate children in increasing their social responsiveness. Finally,

Buell, Stoddar, Harris, and Baer (1968) were able to demonstrate that training in the correct uses of toys and teacher supplied reinforcement results in less isolate behavior. These studies (although few in number) suggest that the simple manipulation of play materials may result in less withdrawn behavior in disturbed children. Because this procedure is exceptionally simple, its use deserves extensive investigation.

Behavioral Techniques

The use of behavioral treatment procedures has been exceptionally popular in attempting to modify withdrawn behavior. Basically, these procedures fall into three groups: (a) the use of contingent teacher attention, (b) the use of contingent peer attention, and (c) the use of behavioral training procedures. A recent overview of behavioral approaches utilized in the modification of social withdrawal (Gelfand, 1978) indicates that these approaches are indeed quite effective. Each of these areas is discussed below.

Teacher attention. Teacher attention, contingent upon social behavior, has consistently been found to be effective and has been in wide use for a number of years (e.g., Allen, Hart, Buell, Harris, & Wolf, 1964; Baer, Peterson & Sherman, 1967; Hall & Broden, 1967; Hart, Reynolds, Baer, Brawley & Harris, 1968; Milby, 1970; Strain & Timm, 1974; Whitman, Mercurio & Caponigri, 1970). All of these investigations focused on various aspects of teacher attention. For example, Strain,

Shores, and Kerr (1976) examined the effect of teacher reinforcement on nonreinforced students. By using both verbal and physical prompts and verbal praise contingent on appropriate social behaviors, the researchers were able to successfully increase the social responding of withdrawn boys. The researchers were also able to demonstrate that the provision of reinforcement to the target children increased the appropriate responding of children who did not receive the reinforcement directly. They concluded that the effects of reinforcement could be enhanced by considering a child's social repertoire and his/her past history of reinforcement, and that "spillover" effects could be maximized by providing reinforcement to two or more children simultaneously. Weinrott and Jones (1977) attempted to have teachers try to change behavior without varying significantly from their routine. Forty teachers of first through third grade children participated in this ABA study. Behavioral data were first gathered on both disruptive and withdrawn children in their classes. Then, in the demand (B) phase, the teachers were told to try to change the behavior of those children without varying significantly from usual classroom procedures. The results showed that the teachers were effective in modifying withdrawn behavior but not effective in changing disruptive behavior. Finally, other researchers (Timm, Strain, & Eller, 1979) examined how the response-dependent removal of reinforcement procedures would effect the prosocial behavior

of withdrawn children. During the second phase of the second intervention on a ABAB study, the researchers reduced the prompts and contingent attention to a response-dependent basis for two subjects and a response-independent basis for the third subject. Their results demonstrated that:

> (a) the intervention procedures produced marked increases in positive social behavior emitted by each subject, and (b) response-dependent fading and thinning, contrasted with response-independent tactics, maintained levels of positive social behavior equivalent to those observed during intervention I and Intervention II, Phase I (p. 308).

This study provides teachers with some guidance on how to gradually remove the reinforcement contingencies but still maintain an appropriate level of performance. Perhaps children would then begin to respond to reinforcement from their peer group--another method that has been extensively and effectively used.

Peer group reinforcement. Reciprocity has been defined as a "dyadic interaction in which persons A and B reinforce 133). This principle has been examined as to its effects on the peer reinforcement of appropriate social responses in withdrawn children. Various reinforcers to elicit peer attention have been used including points (Walker & Hops,

1973, tokens (Kazdin, 1971), and candy (Kirby & Toler, 1970). Strain, Shores, and Timm (1977) and Strain (1977) have effectively trained age peers to initiate social interactions and have shown that these interactions result in immediate increases in appropriate social behaviors on the part of isolate children. Other researchers (Shores, Hester, & Strain, 1976) have shown that teacher-structured situations can help to accelerate child-child interactions. Finally, others (Strain & Shores, 1977) have suggested that educational strategies designed to increase appropriate social responding be based on the reciprocal idea of social behaviors. Procedures which they recommend include: (a) the use of observational techniques that are sensitive to the givers and receivers of reinforcement and of the varying effects, and (b) the development of intervention techniques that use social stimuli to help accelerate the appropriate responses of isolate children. These studies indicated that peer reinforcement can be a powerful determiner of social responding and should be considered by teachers. A factor in helping to elicit this peer reinforcement is the training of the isolate child to perform responses which will result in an increase in peer reinforcement.

Behavioral training. Schwartz and Johnson (1982) state that a number of children may not interact with others due to anxiety resulting from previous situations which were unpleasant. The anxiety therefore is a result of learned behavior. Gelfand (1978) suggests that behavioral methods geared toward modifying withdrawal and shyness are quite effective. Researchers

in the field of child withdrawal have suggested that withdrawn children need to first be taught to interact appropriately and then be reinforced for exhibiting these behaviors (Allen, Turner, & Everett, 1970; Gottman, Gonso & Rasmussen, 1975). In a study involving adults, but one which vividly demonstrates the effectiveness of training procedures, Kale, et al. (1968) demonstrated that prompting and reinforcement with cigarettes helped to increase the number of social greetings emitted by three withdrawn schizophrenic male adults. During a generalization phase, prompting was successfully faded, however, when the researchers also attempted to fade reinforcement with cigarettes, generalization did not occur. They suggested that this failure was due to a lack of appropriate training for the subjects. A similar training procedure was used by other researchers (Strain & Wiegerink, 1976) when they instructed teachers to prompt children to assume a role during a story time. The researchers were then able to show that participation in these sociodramatic activities just before a free play period greatly increased the amount of social play between subjects. Gottman, Gonso, and Schuler (1976) used a teacher-coach to teach interactive skills to withdrawn children. Although these children did not increase the relative frequency of their interactions, they did redistribute them and as a result, their sociometric positions improved. Finally, in a multiple baseline study, Cooke and Apolloni (1976) taught four children to (a) smile, (b) share, (c) exhibit positive

physical contact, and (d) to verbally compliment their peers. Three students were untrained, and baseline data were gathered on them throughout the study. The authors demonstrated a dramatic increase in behaviors when training procedures were instituted. They also demonstrated that the smiling and sharing behaviors in the untrained subjects also increased, but no changes were noted in the positive physical contact or verbal compliment behaviors. They concluded that these latter two behaviors required individualized training procedures.

Summary

The area of treatment for socially withdrawn children is an exceptionally diverse area, and as in other areas covered by this paper no definitive statements can be made. A review of the research has indicated that behavioral treatments are the most widely used, but no comparative studies have been made. Therefore, a statement as to their relative effectiveness would be purely speculative. This lack of comparative studies demonstrates a vital research need in this area.

Conclusion

Of the five areas reviewed in this paper (definition, identification, etiology, importance of treatment, and treatment), only one, importance of treatment, seems to be free from an equivocal nature. Most everyone concerned with emotionally disturbed children seems to agree that withdrawn behavior is a problem which needs to be addressed. The other areas though, are still wide open for research, and five basic research needs

can be identified:

1) An operational definition of withdrawn behavior needs to be developed. Although many researchers have coined various descriptors, these descriptors may mean different things to different people. A universal, precise definition based on normal behavior must be developed.
2) Assessment procedures that are accurate, quick, reliable, and cost-effective need to be developed. Although there has been much research to this end and researchers are close to realizing this goal, a universally accepted procedure must be formulated.
3) Causal factors must continue to be evaluated. Although one predominant factor may never be discovered, an examination of the relative occurrence of various factors could lead to preventative techniques.
4) Treatment procedures should be compared in well-designed studies in order to ferret out the weak procedures and bring the strong ones to the forefront. The most effective procedures could then be used in treating children.
5) Once the most effective treatment procedures have been discovered, research into procedures which can maximize generalization and shift the use of artificial contingencies to more naturally occurring contingencies could proceed in earnest. Without these procedures,

withdrawn children will continue to exhibit withdrawal behaviors when they leave the treatment situation.

Research into these and related areas is greatly needed. The problem of withdrawal behaviors in children is indeed a serious problem, and combined efforts of educators from all disciplines and philosophies are necessary if significant progress is to be made.

Reference Notes

1. Brulle, A. R., Barton, L. E. & Repp, A. C. A data-based definition of hyperactivity. Paper presented at the 104th Annual Meeting of the American Association on Mental Deficiency, San Francisco, 1980.
2. Neiminen, G. S., Barton, L. E., Brulle, A. R. & Repp, A. C. Naturalistic studies of retarded persons in institution and public school settings: A comparison. Paper presented at the 104th Annual Meeting of the American Association on Mental Deficiency, San Francisco, 1980.

References

Allen, K. E., Hart, B., Buell, J.S., Harris, F. R., & Wolf, M. M. Effects of social reinforcement on isolate behavior of a nursery school child. Child Development, 1964, 35, 511-518.

Allen, K.E., Turner, K. D., & Everett, P.M. A behavior modification classroom for head start children with problem behaviors. Exceptional Children, 1970, 37, 119-127.

Amidon, E. & Hoffman, C. Helping the socially isolated or rejected child. National Elementary Principal, 1963, 43, 75-79.

Anastasi, A. Psychological Testing. New York: MacMillan, 1968.

Apolloni, T. & Cooke, T. P. Peer behavior conceptualized as a variable influencing infant and toddler development. American Journal of Orthopsychiatry, 1975, 45, 4-17.

Ausubel, D. P. Theory and problems of child development. New York: Grune & Stratton, 1958.

Axline, V. Play Therapy. New York: Random House, 1947.

Baer, D. M., Peterson, R. F. & Sherman, J. A. The development of imitation by reinforcing behavioral similarity to a model. Journal of the Experimental Analysis of Behavior, 1967, 10, 405-417.

Bandura, A. Principles of behavior modification. New York: Holt, 1969.

Bandura, A. & Walters, R. H. Social learning and personality development. New York: Holt, 1963.

Barton, L. E., Brulle, A. R. & Repp. A. C. The social validation of programs for mentally retarded children. Mental Retardation, in press.

Bell, R. Q., Waldrop, M. F., & Weller, G. M. A rating system for the assessment of hyperactive and withdrawn children in pre-school samples. American Journal of Orthopsychiatry, 1972, 42, 23-34.

Bellak, L. Bellak Thematic Apperception Test. New York: Psychological Corp., 1947.

Bloom, B. S. Stability and change in human characteristics. New York: Wiley, 1964.

Blum, G. The Blacky pictures, manual of instructions. New York: Psychological Corp., 1950-62.

Blum, G. Reliability of the Blacky test; a reply to Charen. Journal of Consulting Psychology, 1956, 20, 406.

Bonney, M. E. Personality traits of socially unsuccessful children. Journal of Educational Psychology, 1943, 34, 449-473.

Bonney, M. E. Assessment of efforts to aid socially isolated elementary school pupils. Journal of Educational Research, 1971, 64, 359-364.

Bower, E. M. Early identification of emotionally handicapped children in school. Springfield, IL: Charles C. Thomas, 1960.

Bower, E. Early identification of emotionally handicapped children in school (2nd ed.). Springfield, IL: Charles C. Thomas, 1969.

Bower, E. and Lambert, N. In-school screening of children with emotional handicaps. In N. Long, W. Morse and R. Newman (Eds.), Conflict in the classroom (2nd ed.). Belmont, CA: Wadsworth, 1971.

Bower, E. M., Shellhamer, T. A. & Daily, J. M. School characteristics of male adolescents who later became schizophrenic. American Journal of Orthopsychiatry, 1960, 30, 712-729.

Bowman, K. M. A study of the prepsychotic personality problem in certain psychoses. American Journal of Orthopsychiatry, 1934, 4, 473-498.

Buell, J. Stoddard, P., Harris, F. R. & Baer, D. M. Collateral social development accompanying reinforcement of outdoor play in a preschool child. Journal of Applied Behavior Analysis, 1968, 1, 167-173.

Burks, H. F. Burks' Behavior Rating Scales. Los Angelos: Western Psychological, 1977.

Buros, O. The sixth mental measurements yearbook. Highland Park, NJ: Gryphon, 1965.

Buswell, M. M. The relationship between social structure of the classroom and the academic success of the pupils. Journal of Experimental Education, 1953, 22, 37-52.

Challman, R. C. Factors influencing friendship among preschool children. Child Development, 1932, 3, 146-158.

Chennault, M. Improving the social acceptance of unpopular educable mentally retarded pupils in special classes. American Journal of Mental Deficiency, 1967, 72, 455-458.

Clarizio, H. F. and McCoy, G. F. Behavior disorders in children (2nd ed.). New York: Thomas Y. Crowell, 1976.

Clarke, J., Gannon, M., Hughes, I., Keogh, C., Singer, G., & Wallace, M. Adjuntive behavior in humans in a group gambling situation. Physiology and Behavior, 1977, 18, 159-161.

Clement, P. W. & Milne, D. C. Group play therapy and tangible reinforcers used to modify the behavior of 8-year-old boys. Behaviour Research and Therapy, 1967, 5, 301-312.

Coleman, J. Abnormal psychology and modern life. Glenview, IL: Scott Foresman, 1964.

Cooke, T. P. & Apolloni, T. Developing positive emotional behaviors: A study in training and generalization effects. Journal of Applied Behavior Analysis, 1976, 9, 65-78.

Cowen, E. L., Pederson, A., Babigren, H., Izzo, L. D. & Trost, M. A. Long-term followup of early detected vulnerable children. Journal of Consulting and Clinical Psychology, 1973, 41, 438-446.

Cox, F. N. Sociometric status and individual adjustment before and after play therapy. Journal of Abnormal and Social Psychology, 1953, 48, 354-356.

DeStefano, M. A., Gestin, E. L. & Cowen, E. L. Teachers' views of the treatability of children's school adjustment problems. Journal of Special Education, 1977, 11, 275-280.

Dozier, J. E., Lewis, S., Kersey, A. & Charping, J. W. Sports groups: An alternative treatment modality for emotionally disturbed adolescents. Adolescence, 1978, 13, 483-488.

Dunn, L. M. Exceptional Children in the schools. New York: Holt, Rinehart & Winston, 1963.

Early, J. C. Attitude learning in children. Journal of Educational Psychology, 1968, 59, 176-180.

Evers, W. L. & Schwarz, J. C. Modifying social withdrawl in preschoolers: The effects of filmed modeling and teacher praise. Journal of Abnormal Child Psychology, 1973, 1, 248-256.

Evers-Pasquale, W. & Sherman, M. The reward value of peers: A variable influencing the efficacy of filmed modeling in modifying social isolation in preschoolers. Journal of Abnormal Child Psychology, 1975, 3, 179-189.

Eysenck, H. J. The inheritance of extroversion-introversion. Acta Psychologia, 1956, 12, 95-110.

Falk, J. L. The nature and determinants of adjunctive behavior. Psychology and Behavior, 1971, 6, 577-588.

Forer, B. Word association and sentence completion methods. In A. Rabin and M. Haworth (Eds.), Projective techniques with children. New York: Grune & Stratton, 1971.

Foster, W. S. Adjunctive behavior: An under-reported phenomenon in applied behavior analysis? Journal of Applied Behavior Analysis, 1978, 11, 545-546.

Garner, H. G. A truce in the "war for the child." Exceptional Children, 1976, 42, 315-320.

Gelfand, D. M. Social withdrawal and negative emotional states: behavioral therapy. In B. Wolman, J. Egan, & A. Ross (Eds.), Handbook of treatment of mental disorders in childhood and adolescence. Englewood Cliffs, NJ: Prentice-Hall, 1978.

Gilbert, G. M. A survey of "referral problems" in metropolitan child guidance centers. Journal of Clinical Psychology, 1957, 13, 37-42.

Gottman, J. M. Toward a definition of social isolation in children. Child Development, 1977, 48, 513-517.

Gottman,J., Gonso, J. & Rasmussen, B. Social interaction, social competence, and feindship in children. Child Development, 1975, 46, 709-718.

Gottman, J., Gonso, J. & Schuler, P. Teaching social skills to isoloated children. Journal of Abnormal Child Psychology, 1976, 4, 179-197.

Greenwood, C. R., Walker, H. M. & Hops, H. Issues in social interaction/withdrawal assessment. Exceptional Children, 1977, 43, 490-499.

Greenwood, C. R., Walker, H. M., Todd, N. M. & Hops, H. Preschool teachers' assessments of student social interaction: Predictive success and normative data (Report No. 26). Eugene, OR: Center of Oregon for Research in the Behavioral Education of the Handicapped, 1976.

Greenwood, C. R., Walker, H. M., Todd, N. M. & Hops, H. Selecting a cost-effective screening measure for the assessment of preschool social withdrawal. Journal of Applied Behavior Analysis, 1979, 12, 639-652.

Grieger, R. M. & Richards, H. C. Prevalence and structure of behavior symptoms among children in special education and regular classroom settings. Journal of School Psychology, 1976, 14, 27-38.

Guerney, B. G. & Flumen, A. B. Teachers as psychotherapeutic agents for withdrawn children. Journal of School Psychology, 1970, 8, 107-113.

Hall, R. V. & Broden, M. Behavior changes in brain-injured children through social reinforcement. Journal of Experimental Child Psychology, 1967, 5, 463-479.

Harris, W. J., King, D. R. & Drummond, R. J. Personality variables of children nominated as emotionally handicapped by classroom teachers. Psychology in the Schools, 1978, 15, 361-363.

Hart, B. M., Reynolds, N. J., Baer, D. M., Brawley, E. R. & Harris, F. R. Effect of contingent and noncontingent social reinforcement of the cooperative play of a preschool child. Journal of Applied Behavior Analysis, 1968, 1, 73-76.

Hartup, W. W. Peer interaction and social organization. In P. H. Mussen (Ed.), Manual of child psychology (3rd ed.). New York: Wiley, 1970.

Heinstein, M. Behavior problems of young children in California. Berkeley, CA: Bureau of Maternal and Child Health, 1969.

Heston, L. L. The genetics of schizophrenia and schizoid diseases. Science, 1970, 167, 249-256.

Jurgens, M. & Babich, W.: Withdraw, fade, vanish. Springfield, IL: Illinois State Board of Education, Department of Adult, Vocational and Technical Education, 1982.

Kale, R. J., Kaye, P. A., Whelan, P. A., & Hopkins, B. L. The effects of reinforcement on the modification, maintenance, and generalization of social responses of mental patients. Journal of Applied Behavior Analysis, 1968, 1, 307-314.

Kasain, J., & Veo, L. A study of the school adjustments of children who later in life became psychotic. American Journal of Orthopsychiatry, 1982, 2, 212-227.

Kauffman, J. M. Nineteenth century views of children's behavior disorders: Historical contributions and continuing issues. Journal of Special Education, 1976, 10, 335-349.

Kauffman, J. M. Characteristics of children's behavior disorders. Columbus, OH: Charles E. Merrill, 1977.

Kazdin, A. E. Toward a client administered token reinforcement program. Education and Training of the Mentally Retarded, 1971, 6, 52-55.

Kazdin, A. E. Assessing the clinical or applied importance of behavior change through social validation. Behavior Modification, 1977, 1, 427-452.

Kirby, F. D. & Toler, H. C. Modification of preschool isolate behavior: A case study. Journal of Applied Behavior Analysis, 1970, 3, 309-314.

Kleinmuntz, B. Personality measurement. Homewood, IL: Dorsey Press, 1967.

Klopfer, B. & Davidson, H. The Rorschach Method of Personality Diagnosis. New York: Harcourt, Brace & World, 1960.

Kohn, M. L. & Clausen, J. A. Social isolation and schizophrenia. American Sociological Review, 1955, 20, 265-273.

Kohn, M. & Rosman, L. A social competence scale and symptom checklist for the preschool child: Factor dimensions, their cross instrument generality, and longitudinal persistence. Developmental Psychology, 1972, 6, 430-444.

Kransler, G. D., Mayer, G. R., Dyer, C. O. & Munger, P. F. Counseling with elementary school children: An experimental study. Personnel and Guidance Journal, 1966, 44, 944-949.

Maes, W. The identification of emotionally disturbed elementary school children. Exceptional Children, 1966, 32, 607-609.

Martin, R. Educating handicapped children: The legal mandate. Champaign, IL: Research Press, 1979.

Marshall, H. R. An evaluation of sociometric-social behavior research with preschool children. Child Development, 1957, 28, 131-137.

Marshall, H. R. & McCandless, B. R. A study in prediction of social behavior of preschool children. Child Development, 1957, 28, 149-159.

McClearn, G. E. Genetics and behavior development. In M. L. Hoffman & L. W. Hoffman (Eds.), Review of Child Development Research (Vol. I). New York: Russell Sage Foundation, 1964.

Michael, C. M., Morris, D. P. & Soroker, E. Follow-up studies of shy, withdrawn children. II. Relative incidence of schizophrenia. American Journal of Orthopsychiatry, 1957, 27, 331-337.

Milby, J. C. Modification of extreme social isolation by contingent reinforcement. Journal of Applied Behavior Analysis, 1970, 3, 149-152.

Moreno, S. L. & Jennings, H. H. Sociometric methods of grouping and regrouping with reference to authoritative and democratic methods of grouping. Sociometry, 1944, 7, 397-414.

Morris, D. P., Soroker, E. & Burrus, G. Follow-up studies of shy, withdrawn children. I. Evaluation of later adjustment. American Journal of Orthopsychiatry, 1954, 24, 743-754.

Morrison, T. L. & Thomas, M. D. Judgments of educators and child-care personnel about appropriate treatment for mentally retarded or normal, overactive or withdrawn boys. Journal of Clinical Psychology, 1976, 32, 449-452.

Nelson, C. M. Techniques for screening conduct disturbed children. Exceptional Children, 1971, 37, 501-507.

Northway, M. L. A method for depicting social relationships obtained by sociometric testing. Sociometry, 1940, 3, 144-150.

O'Connor, R. D. Modification of social withdrawal through symbolic modeling. Journal of Applied Behavior Analysis, 1969, 2, 15-22.

O'Connor, R. D. Relative efficacy of modeling, shaping, and the combined procedures for modification of social withdrawal. Journal of Abnormal Psychology, 1972, 79, 327-334.

O'Neal, P. & Robins, L. Childhood patterns predictive of adult schizophrenia: A follow-up study. American Journal of Psychiatry, 1958, 115, 385-391.

Public Law 94-142, The Education for All Handicapped Children Act, 1975.

Paloutzian, R. F., Hasazi, J., Streifel, J. & Edgar, C. L. Promotion of positive social interaction in severely retarded children. American Journal of Mental Deficiency, 1971, 75, 519-524.

Parten, M. B. Social play among preschool children. Journal of Abnormal and Social Psychology, 1933, 28, 136-147.

Pate, J. Emotionally disturbed and socially maladjusted children. In L. Dunn (Ed.), Exceptional children in the schools. New York: Holt Rinehart & Winston, 1963.

Patterson, G. R. & Reid, J. B. Reciprocity and coercion: Two facets of social systems. In E. Neuringer & J. Michael (Eds.), Behavior modification in clinfcal psychology. New York: Appleton, 1970.

Quay, H. C., Morse, W. & Cutler, R. L. Personality patterns of pupils in special classes for the emotionally disturbed. Exceptional Children, 1966, 32, 297-301.

Quay, H. C. & Peterson, D. R. Manual for the behavior problem checklist. Unpublished, 1975.

Quilitch, H. R. & Risley, T. R. The effects of play materials on social play. Journal of Applied Behavior Analysis, 1973, 6, 573-578.

Reinhart, H. Children in conflict: Educational strategies, for the emotionally disturbed and behaviorally disordered. St. Louis: Mosby, 1980.

Rimland, B. Infantile autism. New York: Appleton-Century-Crofts, 1964.

Rimland, B. The differentiation of childhood psychoses: An analysis of checklists for 2,218 psychotic children. Journal of Autism and Childhood Schizophrenia, 1971, 1, 161-174.

Rardin, D. R. & Moan, C. E. Peer interaction and cognitive development. Child Development, 1971, 42, 1685-99.

Rogers, M. E., Lilenfield, A. M. & Pasamanick, B. Prenatal and paranatal factors in the development of childhood behavior disorders. Baltimore: John Hopkins University Press, 1955.

Sattler, J. Assessment of childrens intelligence. Philadelphia: W. B. Saunders, 1974.

Scarr-Salapatek, S. Genetics and the development of intelligence. In F. D. Horowitz (Eds.), Review of Child Development Research (Vol. 4). Chicago: University of Chicago Press, 1975.

Schulman, J. L. Management of emotional disorders in pediatric practice. Chicago, IL: Yearbook Medical Publishers, 1967.

Schwartz, S. & Johnson, J. Psychopathology of childhood. New York: Pergamon Press, 1981.

Shea, T. M. Teaching children and youth with behavior disorders. St. Louis: C. V. Mosby, 1978.

Shores, R. E., Hester, P. & Strain, P. S. The effects of amount and type of teacher-child interaction on child-child interaction during free-play. Psychology in the Schools, 1976, 13, 171-175.

Strain, P. S. An experimental analysis of peer social initiations on the behavior of withdrawn preschool children: Some training and generalization effects. Journal of Abnormal Child Psychology, 1977, 5, 445-455.

Strain, P. S., Cooke, T. P. & Apolloni, T. Teaching exceptional children: Assessing and modifying social behavior. New York: Academic Press, 1976.

Strain, P. S. & Shores, R. E. Social reciprocity: A review of research and educational implications. Exceptional Children, 1977, 43, 526-530.

Strain, P., Shores, R. & Kerr, M. An experimental analysis of spillover effects on social interaction of behaviorally handicapped preschool children. Journal of Applied Behavior Analysis, 1976, 9, 31-40.

Strain, P. S., Shores, R. E. & Timm, M. A. Effects of peer social initiations on the behavior of withdrawn preschool children. Journal of Applied Behavior Analysis, 1977, 10, 289-298.

Strain, P. S. & Timm, M. A. An experimental analysis of social interaction between a behaviorally disordered child and her classroom peers. Journal of Applied Behavior Analysis, 1974, 7, 583-590.

Strain, P. S. & Weingerink, R. Effects of sociodramatic activities on social interaction among behaviorally disordered preschool children. Journal of Special Education, 1976, 10, 71-75.

Terman, L. & Merrill, M. The Stanford Binet Intelligence Scale. Boston: Houghton Mifflin, 1937.

Timm, M. A., Strain, P. S. & Eller, P. H. Effects of systematic, response-dependent fading and thinning procedures on the maintenance of child-child interaction. Journal of Applied Behavior Analysis, 1979, 12, 308.

Ullmann, L. & Krasner, L. (Eds.). Case studies in behavior modification. New York: Holt, Rinehart & Winston, 1965.

Walker, D. K. Socio-emotional measures for preschool and kindergarten. San Francisco: Jossey-Bass, 1973.

Walker, H. Walker problem behavior identification checklist. Los Angeles: Western Psychological, 1976.

Walker, H. M. & Hops, H. The use of group and individual reinforcement contingencies in the modification of social withdrawal. In L. A. Hamerlync, L. C. Handy, & E. J. Mash (Eds.), Behavior change: Methodology, concepts, and practice. Champaign, IL: Research Press, 1973, 269-307.

Walker, H. M. & Hops. H. Use of normative peer data as a standard for evaluating classroom treatment effects. Journal of Applied Behavior Analysis, 1976, 9, 159-168.

Wallace, M., Sanson, A. & Singer, G. Adjunctive behavior in humans on a food delivery schedule. Physiology and Behavior, 1978, 20, 203-204.

Wallace, M. & Singer, G. Adjunctive behavior and smoking induced by a maze solving schedule in humans. Physiology and Behavior, 1976, 17, 849-852.

Wallace, M., Singer, G., Wayner, M. J. & Cooke, P. Adjunctive behavior in humans during game playing. Physiology and Behavior, 1975, 14, 651-654.

Wechsler, D. The Wechsler Intelligence Scale for Children. New York: The Psychological Corporation, 1949.

Weinrott, M. R. & Jones, R. R. Differential effects of demand characteristics on teacher and pupil behavior. Journal of Educational Psychology, 1977, 69, 724-729.

Werry, J. S. Organic factors in childhood psychopathology. In H. C. Quay & J. S. Werry (Eds.), Psychopathological disorders of childhood. New York: Wiley, 1972.

Whitman, T. L. Mercurio, J. R. & Caponigri, V. Development of social responses in two severely retarded children. Journal of Applied Behavior Analysis, 1970, 3, 133-138.

Wursten, H. Story completions; Madeleine Thomas stories and similar methods. In A. Rabin and M. Haworth (Eds.), Projective Techniques with children. New York: Grune & Stratton, 1960.

Zubin, J., Eron, L. and Schumer, F. An experimental approach to projective techniques. New York: John Wiley & Sons, 1965.